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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,953	01/10/2006	Hasse Sinivaara	60091.00447	3591
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PHAN, HUY Q				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/563,953

Applicant(s)

SINIVAARA ET AL.

Examiner

HUY PHAN

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 6, 7, 9, 13-16, 18, 19, 22-24 and 31-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15, 16, 18, 19 and 31-34 is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6, 7, 9, 13, 14, 22-24, 35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/23/2009 has been entered.

Response to Amendment

2. This Office Action is in response to Amendment filed on date: 11/23/2009. Claims 1, 4, 6, 7, 9, 13-16, 18, 19, 22-24, 31-36 are still pending. Claims 2, 3, 5, 8, 10-12, 17, 20, 21, 25-30 and 37 have been cancelled.

Response to Arguments

3. Applicant's arguments, see REMARKS, have been fully considered but they are not persuasive.

Claim Rejections – 35 U.S.C. 112

Applicant argued that "One of ordinary skill in the art would recognize that the portable computer with software corresponds to "[a] computer-readable storage medium encoded with instructions configured to control a processor to perform a process... memory means that includes the control information needed for the performance of

those functions. One of ordinary skill in the art would recognize that the memory means, the control information, the control unit, and the functions corresponds to a "computer-readable storage medium," "instructions," a "processor," and a "process," respectively" (see REMARKS page 9-10). The examiner respectfully disagrees with the applicant's argument. Applicant's specification specifies that "the actual subscriber device, e.g. a portable computer (with software)" (see [0034]) or "The memory means include the MAC MIB, which includes the control information needed for the functions, such as the rules for selecting a new beacon broadcaster" (see [0053]), so that one of ordinary skill in the art would recognize that the computer has software and computer's memory stores control information. However applicant's specification does not disclose that the memory and the software (or control information) are the claimed limitations "computer-readable storage medium" and "instructions" respectively that, when executed cause an apparatus to perform steps of claim 35 ("establish... broadcast..." for claim 35) and claim 36 (receive... decide... insert..." for claim 36); therefore, one of ordinary skill in the art would not recognize that the memory means, the control information, the control unit, and the functions corresponds to a "computer-readable storage medium," "instructions," a "processor," and a "process," respectively". Consequently, the specification in the present application does not provide full and adequate support for the claim recitations. Accordingly, the 112 rejection is properly maintained.

Applicant argued that "a computer readable storage medium constitutes statutory subject matter" (see REMARKS page 9), but applicant does not provide any explanation what makes that "a computer readable storage medium constitutes statutory subject matter", in fact the specification in the present application does not provide full and adequate support for the claimed limitation "a computer readable storage medium" (see explanation of above). It is noted that claims 35 and 36 recite limitation "A computer-readable storage medium", which covers both non-statutory subject matter and statutory subject matter, so giving a broadest reasonable interpretation, limitation "A computer-readable storage medium" is non-statutory subject matter.

Claim Rejections – 35 U.S.C. 103

Applicant's arguments with respect to amended claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

4. I) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 35 and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitations of "A computer-readable storage medium storing instructions that, when executed, cause an apparatus to:" in the claims 35 and 36 are not support by the specification.

II) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claim 4, the phrase "may be" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 35 and 36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 35 and 36 recite limitation "A computer-readable storage medium", which covers both non-statutory subject matter and statutory subject matter, so giving a

broadest reasonable interpretation, limitation "A computer-readable storage medium" is non-statutory subject matter.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I) Claims 1, 6, 9, 13, 14, 22, 23 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer (US 2004/0246932; previously cited) in view of Zhong (US 2006/0193296).

Regarding claim 1, Fischer discloses a method comprising:

establishing ("In an IBSS, the wireless terminals of the IBSS share beaconing duties" see [0037]), by a first wireless terminal ("wireless terminal that operates according to FIG. 5A receives beacons and may transmit beacons" see [0045 and fig. 5A), a beacon interval ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]) for an ad-hoc network ("An IBSS is usually an ad-hoc network" see [0037] and [0045]) and

broadcasting ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]) beacon frames from the first wireless terminal at

the beacon intervals ("In an IBSS, the wireless terminals of the IBSS share beaconing duties" see [0037]).

But, Fischer does not particularly show wherein one or more of the beacon frames comprises an identifier list including identifiers of wireless terminals belonging to the ad-hoc network, the identifiers including of a second wireless terminal different from the first wireless terminal. However in analogous art, Zhong teaches wherein one or more of the beacon frames comprises an identifier list including identifiers of wireless terminals ("the list consists of identifiers of STAs" see [0045] and figs. 4-8) belonging to the ad-hoc network ("independent BSS or IBSS WLAN" see [0027] and fig. 1B), the identifiers including of a second wireless terminal (figs. 4-8, STA2) different from the first wireless terminal (figs. 4-8, STA1). Since, Fischer and Zhong are related to the ad-hoc wireless network; and/or more specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fischer as taught by Zhong for purpose of providing the STAs beaconing information to other STAs associating with the particular IBSS such identifiers of wireless terminals belonging to the ad-hoc network; thus making the process of broadcasting much faster and saving the power consumption of the STA as the known beaconing information being provided.

Regarding claim 6, Zhong discloses the method according to claim 1, further comprising receiving by the first wireless terminal, an identifier of a third wireless terminal when the third wireless terminal joins the ad-hoc network (see figs. 10-12).

Regarding claim 9, Zhong discloses the further comprising organizing the identifiers of the wireless terminals in a priority order, in which the terminals act as the beacon broadcaster (see figs. 10-12).

Regarding claim 13, Fischer discloses the method according to claim 1, wherein the identifier list further includes media access control addresses of the wireless terminals belonging to the ad-hoc network ("MAC address" see [0037]).

Regarding claim 14, Fischer discloses the method according to claim 1, further comprising inserting power state information in the identifier list, the power state information indicating whether a wireless terminal included in the list is in a power save state ("idle state" see [0039] and "idle operation" see [0043]).

Regarding claim 22, Fischer discloses an apparatus (fig. 7) comprising:
a transmitter configured to broadcast beacon frames at beacon intervals in an ad-hoc network ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]).

But, Fischer does not particularly show wherein transmitter is configured to insert an identifier list in at least some of the beacon frames, the identifier list including identifiers of wireless terminals belonging to the ad-hoc network, wherein the identifiers include an identifier of a wireless terminal different from the apparatus. However in

analogous art, Zhong teaches wherein transmitter is configured to insert an identifier list in at least some of the beacon frames ("the list consists of identifiers of STAs" see [0045] and figs. 4-8), the identifier list ("the list consists of identifiers of STAs" see [0045] and figs. 4-8) including identifiers of wireless terminals belonging to the ad-hoc network ("independent BSS or IBSS WLAN" see [0027] and fig. 1B), wherein the identifiers include an identifier of a wireless terminal (figs. 4-8, STA2) different from the apparatus (figs. 4-8, STA1). Since, Fischer and Zhong are related to the ad-hoc wireless network; and/or more specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fischer as taught by Zhong for purpose of providing the STAs beaconing information to other STAs associating with the particular IBSS such identifiers of wireless terminals belonging to the ad-hoc network; thus making the process of broadcasting much faster and saving the power consumption of the STA as the known beaconing information being provided.

Regarding claim 23, Fischer discloses the apparatus according to claim 22, further comprising a processor configured to establish one or more of the beacon intervals for the ad-hoc network ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]).

Regarding claim 35, Fischer discloses a computer-readable storage medium (fig. 7, 758) storing instructions ("instructions" see [0054]) that, when executed, (fig. 7, 756) cause an apparatus to:

establish ("In an IBSS, the wireless terminals of the IBSS share beaconing duties" see [0037]), in a first wireless terminal ("wireless terminal that operates according to FIG. 5A receives beacons and may transmit beacons" see [0045 and fig. 5A), a beacon interval ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]) for an ad-hoc network ("An IBSS is usually an ad-hoc network" see [0037] and [0045]); and

broadcast beacon frames ("the LSTT field of the beacon frame which is scheduled for transmission at TBTT" see [0077]; "beacon is then sent" see [0047]) from the first wireless terminal at the beacon intervals ("all of those parameters are broadcast in beacon frames that are sent at a regular interval" see [0036]).

But, Fischer does not particularly show wherein one or more of the beacon frames comprise an identifier list including identifiers of wireless terminals belonging to the ad-hoc network, the identifiers including an identifier of a second wireless terminal different from the first wireless terminal. However in analogous art, Zhong teaches wherein one or more of the beacon frames comprise an identifier list ("the list consists of identifiers of STAs" see [0045] and figs. 4-8) including identifiers of wireless terminals belonging to the ad-hoc network ("independent BSS or IBSS WLAN" see [0027] and fig. 1B), the identifiers including an identifier of a second wireless terminal (figs. 4-8, STA2) different from the first wireless terminal (figs. 4-8, STA1). Since, Fischer and Zhong are

related to the ad-hoc wireless network; and/or more specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fischer as taught by Zhong for purpose of providing the STAs beaconing information to other STAs associating with the particular IBSS such identifiers of wireless terminals belonging to the ad-hoc network; thus making the process of broadcasting much faster and saving the power consumption of the STA as the known beaconing information being provided.

II) Claims 7 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer in view of Zhong and further in view of Runick (US 2002/0131371; previously cited).

Regarding claim 7, Fischer and Zhong disclose the method according to claim 1, except receiving by the first wireless terminal at least one traffic announcement message, the at least one traffic announcement message identifying at least one wireless terminal for which another wireless terminal has data to be delivered. However in analogous art, Runick teaches receiving by the first wireless terminal at least one traffic announcement message ("The ATIM is sent during the ATIM window, which occurs immediately following Beacon transmission" see [0023]), the at least one traffic announcement message identifying at least one wireless terminal for which another wireless terminal has data to be delivered ("block data transfer" see [0025]). Since, Fischer, Zhong and Runick are related to Ad-hoc wireless network; and/or more

specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Fischer and Zhong as taught by Runick in order to save the power consumption of the STA as "The ATIM is sent during the ATIM window, which occurs immediately following Beacon transmission".

Regarding claim 24, Fischer and Zhong disclose the apparatus according to claim 22, except further comprising processor configured to receive and handle at least one traffic announcement message identifying at least one wireless terminal for which data is to be delivered in the ad-hoc network, the processor being configured to compile, based on the at least one traffic announcement message, a traffic indication data element, and to insert the traffic indication data element into a selected subsequent beacon frame. However in analogous art, Runick teaches processor to receive and handle at least one traffic announcement message ("The ATIM is sent during the ATIM window, which occurs immediately following Beacon transmission" see [0023]) identifying at least one wireless terminal for which data is to be delivered in the ad-hoc network ("block data transfer" see [0025]), the processor being configured to compile, based on the at least one traffic announcement message, a traffic indication data element (fig. 1 and [0030]), and to insert the traffic indication data element into a selected subsequent beacon frame (fig. 1 and [0030]). Since, Fischer, Zhong and Runick are related to Ad-hoc wireless network; and/or more specifically they both are concerned with transmitting the beacon signal; therefore, it would have been obvious to

one of ordinary skill in the art at the time the invention was made to modify the system of Fischer and Zhong as taught by Runick in order to save the power consumption of the STA as "The ATIM is sent during the ATIM window, which occurs immediately following Beacon transmission".

Reasons for Allowance

7. Claims 15, 16, 18, 19 and 31-34 are allowed.

The following is a statement of reason for the indication of allowance:

Claims 15, 16, 18, 19 and 31-34 are allowed with the same reasons set forth in the Office Action mailed 12/31/2008 (pages 10-11).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Bennett discloses that "The Software Beacon Alert provides the time of the next beacon frame, which is referred to as target beacon transition time (TBTT). However, as previously disclosed, the Software Beacon Alert often incurs delays, which makes it unsuitable as a timing reference by itself. The time variation of the Software

Beacon alert is almost always delayed to some degree. The present invention compensates for the time variation of the Software Beacon Alert by utilizing a PLL having a phase detector gain that is constant and small when the Software Beacon Alert is late, but large and proportional when the Software Beacon alert is early. This function is implemented identically on all wireless 1394 devices connected to the bus, giving them all a common, stable time base, by which to synchronize device hardwired to different buses" (see specification).

b) Banginwar discloses that "In addition to unicast traffic, the IEEE 802.11 standard also supports broadcast and multicast traffic. A broadcast frame is one that is addressed to all STAs within a system and a multicast frame is one that is addressed to multiple STAs in the system" (see specification).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUY PHAN whose telephone number is (571)272-79247924. The examiner can normally be reached on 9AM-730PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-76037603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Huy Q Phan/

Primary Examiner, Art Unit 2617

Date: 01/07/2010